ATTORNEY DOCKET NO.
00CXT0330D/13628.0267

PATENT
Customer ID No. 33649

REMARKS/ARGUMENTS

Claims 18 through 21, 23, and 26 through 37 are pending. Claims 1 through 17, 22, 24 and 25 have been cancelled without prejudice or disclaimer. In an office action mailed January 28, 2005 (Paper no. 20050118), claims 18-20 and 26-30 were rejected under 35 U.S.C. 103(a) as being anticipated by Isono in view of Sherer. Claims 31-37 were rejected under 35 U.S.C. 103(a) as being unpatentable over Isono in view of Enns. Claims 21 and 23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Isono in view of Sherer and further in view of Enns. These rejections are respectfully traversed.

Improper Final Rejection

As an initial matter, Applicants note that the rejection of the claims has been improperly made final. Consider claim 21, which was amended in the previous office action response to include the "system of claim 18 further comprising a cable modem DMA controller coupled to the programmable media access controller, the programmable pattern matching engine, and the DES/CRC engine, the cable modem DMA controller facilitating movement of data between the programmable media access controller, the programmable pattern matching engine, and the DES/CRC engine," where the "programmable media access controller" of claim 22 replaced the "microprocessor" of claim 18. Claim 21 was only amended to reflect the amendment to claim 18. In the previous office action, claims 18, 21 and 22 were rejected under 35 U.S.C. 103 over Isono in view of Sherer. As such, the rejection of claim 21 under 35 U.S.C. 103 over Isono in view of Sherer and further in view of Enns constitutes a new grounds of rejection that was not necessitated by the amendment of claim 21.

Further support for the impropriety of the final rejection is provided by the Examiner, who states at paragraph 5 of the present office action that "Isono as modified by Sherer, fail to explicitly teach DES/CRC," and further relies on Enns for that teaching In the previous office action, mailed 6/7/2004, the examiner relied at page 6 on Sherer as disclosing DES/CRC engine 423 in conjunction with Isono. Thus, the Examiner has cited a new grounds of rejection against claims that were present in the previous office action, and the rejection of those claims cannot be made final.

The same reasons also apply to claim 23, which was only amended to reflect the amendment to claim 18, and which was also previously rejected over Isono in view of Sherer but which is not rejected over Isono in view of Sherer and further in view of Enns. Withdrawal of the finality of the rejection is required.

Rejections under 35 U.S.C. 103

In regards to the current rejections, the Applicants note that they are based on the incorrect assessment and response to the arguments that were previously presented. In particular, the Examiner mistakenly states on page 3 of the office action that a "programmable media access controller" is a new claimed limitation of claim 18. However, that limitation was previously presented in claim 22, which was cancelled. As such, the Examiner improperly relies on the "programmable media access controller" as being a new limitation, when in fact it was present in the claims that the Examiner had previously examined on three separate occasions!

The Examiner further maintains that MAC-F/IP/TTL 31/33 filters and the various elements within the cable modem are programmable, while admitting that Isono fails to even use the terms "program" or "programmable." However, this position is incorrect for two reasons.

First, claim 18 includes "**a programmable pattern matching engine** receiving a pattern and a data stream and generating an index entry if the pattern is present in the data stream; [and] **a programmable media access controller** reading the index entry and determining whether to continue receipt of the data stream." The Modern Dictionary of Electronics, Fifth Edition, 1978, defines "program" as "a sequence of instructions that tells a computer how to receive, store, process and deliver information." Thus, it is simply not enough for some filters or other various elements in the cable modem to be able to store data values in a register, or to compare the data values – the prior art must disclose a programmable pattern matching engine and a programmable media access controller, which, in one exemplary embodiment, are capable of receiving a sequence of instructions that tells a computer how to receive, store, process and deliver information. The Examiner is improperly construing "a programmable pattern matching engine" and "a programmable media access controller" to mean "a cable modem with some

programmable filters and other various elements." Not only is such a construction completely unfounded, particularly where the basis for the rejection is inherency, it also mischaracterizes the prior art. In order to base a rejection on inherency, the cited art **must necessarily include the claimed elements**. Even if Isono disclosed a cable modem with some programmable filters and other various elements, which it does not (as described below), it still fails to disclose "a programmable pattern matching engine" and "a programmable media access controller."

Second, Figure 2 of Isono shows the cable modem that is allegedly programmable and that allegedly inherently includes a microprocessor. The term "microprocessor" is used nowhere in Isono. Furthermore, Isono does show computers 3-1 and 3-2 and PC 12-1, which arguably would include a microprocessor, and does not show cable modem 9 as being either a computer 3-1 or 3-2 or PC 12-1. Clearly, if Isono wanted to convey that cable modem 9 included a microprocessor, he could have done so. Finally, each of the components of cable modem 9 as described by Isono are implemented as separate dedicated circuitry, and are explicitly described as being not programmable:

- MAC filter 31 extracts data having a matching MAC address. This simple function does not only not require programmability, which is commonly understood to mean the ability to receive and implement operating instructions, it is expressly limited to the function of comparing a data value stored in a first register with a data value stored in a second register. Not only is programmability expressly prohibited by Isono's own definition of MAC filter 31, using a microprocessor to perform this function would be an enormous waste of processing power.
- DHCP/DNS/SNMP units 32 execute the process of dynamically assigning IP addresses in their DHCP unit, and also substitute IP addresses for domain names so that the DNS unit can uniquely identify one computer registered in the Internet 2 using its name. Again, this simple function does not only not require programmability but is expressly limited to a single function. Not only is programmability expressly prohibited by Isono's own definition of DHCP/DNS/SNMP units 32, using a microprocessor to perform this function would be an enormous waste of processing power.

- IP/TTL filters 33 extract data having destination IP addresses assigned to the terminals associated with the cable modem. Again, this simple function does not only not require programmability but is expressly limited to a single function. Not only is programmability expressly prohibited by Isono's own definition of IP/TTL filters 33, using a microprocessor to perform this function would be an enormous waste of processing power.
- MAC address adder 34 adds a MAC address to the data supplied from the DHCP/DNS/SNMP units 32 or the IP/TTL filters 33 before outputting the result to the LAN 10. Again, this simple function does not only not require programmability but is expressly limited to a single function. Not only is programmability expressly prohibited by Isono's own definition of MAC address adder 34, using a microprocessor to perform this function would be an enormous waste of processing power.
- MAC filter 35 extracts only data having a destination address (MAC address) designating the cable modem 9, and supplies the extracted data to the DHCP/DNS/SNMP units 32 and the IP/TTL filters 36. Again, this simple function does not only not require programmability but is expressly limited to a single function. Not only is programmability expressly prohibited by Isono's own definition of MAC filter 35, using a microprocessor to perform this function would be an enormous waste of processing power.
- IP/TTL filters 36 have the source IP addresses of the terminals 11-1 to 11-n to manage, and extract only the data of a packet which can exit longer on the Internet before outputting the extracted data to a MAC address adder 37 and the DHCP/DNS/SNMP units 32. Again, this simple function does not only not require programmability but is expressly limited to a single function. Not only is programmability expressly prohibited by Isono's own definition of IP/TTL filters 36, using a microprocessor to perform this function would be an enormous waste of processing power.
- MAC address adder 37 adds a MAC address to the data supplied from the IP/TTL filters 36 or the DHCP/DNS/SNMP units 32, and outputs the result as upstream data

to the coaxial cable 8. Again, this simple function does not only not require programmability but is expressly limited to a single function. Not only is programmability expressly prohibited by Isono's own definition of MAC address adder 37, using a microprocessor to perform this function would be an enormous waste of processing power.

Applicants have thus shown in painstaking detail that there is absolutely no programmability in any of the components of cable modem 9 of Isono. Each component performs a single predetermined function, and is incapable of receiving new instructions that allow them to perform new functions. Withdrawal of the rejection of claim 18 and all claims depending therefrom is therefore respectfully requested.

In regards to claim 26, the Examiner construes "a programmable media access controller" to be DHCP/DNS/SNMP units 32, "a programmable pattern matching engine that is programmed by the media access controller" to be MAC filter 31 and IP/TTL filters 33, and "a programmable CRC engine that is programmed by the media access controller" to be disclosed in Scherer. In additional to the fatal errors in the Examiner's construction of these claim terms that have been described in detail above, there are the additional facts that:

- Isono fails to disclose that DHCP/DNS/SNMP units 32 program MAC filter 31 and IP/TTL filters 33. As previously described, DHCP/DNS/SNMP units 32 execute the process of dynamically assigning IP addresses in their DHCP unit, and also substitute IP addresses for domain names so that the DNS unit can uniquely identify one computer registered in the Internet 2 using its name. In contrast, MAC filter 31 extracts data from the downstream data that has a destination address (MAC address) designating itself. DHCP/DNS/SNMP units 32 are **downstream** of MAC filter 31! No feedback or programming is shown or described! The same problem exists with IP/TTL filters 33 – they provide data to DHCP/DNS/SNMP units 32, but do not receive **any** data from them, much less programming.
- Sherer fails to disclose that CRC calculator 413 or CRC checker 423 (the Examiner is unclear as to which component he is relying on) are programmable. In fact, the words "program" and "programmable" are not even used in Sherer.

- Furthermore, even if CRC calculator 413 or CRC checker 423 of Sherer was programmable, how would DHCP/DNS/SNMP units 32 program them? What instructions would be provided? How would those instructions be provided? Since Isono discloses that DHCP/DNS/SNMP units 32 only perform the function of dynamically assigning IP addresses in their DHCP unit, and also substitute IP addresses for domain names so that the DNS unit can uniquely identify one computer registered in the Internet 2 using its name, how would they even be capable of programming anything, much less CRC calculator 413 or CRC checker 423 of Sherer?

The Examiner has impermissibly used the teachings of the present application to try and combine unrelated components from various pieces of prior art, but in order to do so, must attribute functionality to those components that is not only not anywhere disclosed in the prior art references, but which the prior art references themselves expressly prohibit the components from performing. The rejection of claim 26 and the claims that depend therefrom must be withdrawn.

In regards to claim 31, it has been shown that MAC filter 31 IP/TTL filters 33 are not programmable. Claim 31 includes "determining two or more acceptable parameters for data frames that are to be received; programming at least one of the acceptable parameters into a pattern matching engine; programming at least one of the acceptable parameters into a DES/CRC engine." Enns fails to disclose any CRC programmability. Furthermore, as previously discussed in regards to Sherer, how does Isono program anything, much less a DES/CRC engine? The rejection of claim 31 and all claims that depend therefrom must be withdrawn.

All claims not specifically addressed pend from claims that are believed to be allowable, and are allowable at least for that reason and because they add limitations not found in the prior art. Applicants reserve the right to specifically traverse the rejections of those claims on appeal. Withdrawal of all rejections and allowance of the claims is respectfully requested.

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CONCLUSION

In view of the foregoing remarks and for various other reasons readily apparent, Applicant submits that all of the claims now present are allowable, and withdrawal of the rejection and a Notice of Allowance are courteously solicited.

If any impediment to the allowance of the claims remains after consideration of this amendment, a telephone interview with the Examiner is hereby requested by the undersigned at (214) 939-8657 so that such issues may be resolved as expeditiously as possible.

No additional fee is believed to be due. If any applicable fee or refund has been overlooked, the Commissioner is hereby authorized to charge any fee or credit any refund to the deposit account of Godwin Gruber LLP, No. 500530.

Respectfully submitted,

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